

WHAT IS CLAIMED IS:

1. A sheet feeding device comprising:
a plurality of sheet trays which are vertically disposed for storing sheets;
a plurality of sheet feeding means for feeding sheets stored in the plurality of sheet trays; and
a plurality of transport paths for transporting the sheets fed by the plurality of sheet feeding means,
wherein a sheet feeding direction of sheets stored on at least one of the plurality of sheet trays is a direction opposite to a sheet feeding direction of sheets stored on another of the plurality of sheets trays.

2. A sheet feeding device according to Claim 1, further comprising:
a primary transport path into which the plurality of transport paths interflow,
wherein the primary transport path is disposed between two of the plurality of sheet trays.

3. A sheet feeding device according to Claim 1, further comprising:
a primary transport path into which the plurality of transport paths interflow,

wherein the primary transport path includes sheet reversing means for reversing front and back sides of sheets.

4. A sheet feeding device according to Claim 1, wherein the sheet feeding means feeds sheets from the sheet trays to insert the sheets between two of a plurality of sheets transported from the image formation apparatus.

5. A sheet feeding device comprising:
a sheet tray for storing sheets;
two sheet feeding means for feeding sheets stored on the sheet trays; and
two transport paths for transporting sheets fed by said two sheet feeding means, wherein each of said two feeding means feeds sheets from the sheet tray in a direction opposite to the another.

6. A sheet feeding device according to Claim 5, wherein said feeding means feeds sheets from the sheet tray and inserts the sheets between a plurality of sheets transported from the image formation apparatus.

7. A sheet feeding device comprising:
a plurality of sheet trays for storing sheets;
a plurality of sheet feeding means for feeding sheets

stored in the plurality of sheet trays; and

a plurality of transport paths for transporting the sheets fed by the plurality of sheet feeding means,

wherein a sheet feeding direction of sheets stored on at least one of the plurality of sheet trays is a direction opposite to a sheet feeding direction of sheets stored on another of the plurality of sheet trays, and the sheet feeding means feeds and inserts the sheets between two of a plurality of sheets transported from the image formation apparatus.

8. A sheet feeding device comprising:

a pair of feeding trays which are vertically disposed;

a pair of sheet feeding units, each disposed adjacent a respective one of the pair of sheet feeding trays; and

a pair of transport paths respectively connected to the pair of sheet feeding units,

wherein a sheet feeding direction of each of the pair of sheet feeding units is opposite to the other of the pair of sheet feeding units.

9. A sheet feeding device comprising:

a feeding tray;

a pair of sheet feeding units, each disposed adjacent the feeding tray; and

a pair of transport paths respectively connected to the pair of sheet feeding units,

wherein a sheet feeding direction of each of the pair of sheet feeding units is opposite to the other of said pair of sheet feeding units.

10. A sheet post-processing system comprising:
a sheet feeding device according to Claim 1; and
a sheet post-processing device adapted to perform post-processing on sheets discharged from the sheet feeding device.

11. A sheet post-processing system comprising:
a sheet feeding device according to Claim 5; and
a sheet post-processing device adapted to perform post-processing on sheets discharged from the sheet feeding device.

12. A sheet post-processing system comprising:
a sheet feeding device according to Claim 7; and
a sheet post-processing device adapted to perform post-processing on sheets discharged from the sheet feeding device.

13. An image formation system comprising:

an image formation apparatus for forming images on sheets;

a sheet feeding device according to Claim 1 for inserting sheets between two of a plurality of sheets on which images are formed by the image formation apparatus; and

a sheet post-processing device which is disposed downstream in a sheet transport direction of said image formation apparatus, said sheet post-processing device performing post-processing on sheets on which images are formed by the image formation apparatus or on sheets fed by the sheet feeding device.

14. An image formation system according to Claim 13, further comprising:

control means for selecting feeding of sheets from the plurality of sheet trays depending on whether the selected post-processing mode is a post-processing mode in which sheets are transported in a face-up state to the sheet post-processing device or a post-processing mode in which sheets are transported in a face-down state to the sheet post-processing device.

15. An image formation system according to Claim 13, wherein the sheet feeding device is detachably mounted on

one of the image formation apparatus and the sheet post-processing device.

16. An image formation system according to Claim 13, further comprising:

an upstream side sheet feeding device located on an upstream side in the sheet feeding direction of the image formation apparatus for feeding sheets to the image formation apparatus,

wherein said upstream side sheet feeding device and said sheet feeding device have the same configuration.

17. An image formation system comprising:

an image formation apparatus for forming images on sheets;

a sheet feeding device according to Claim 5 for inserting sheets between two of a plurality of sheets on which images are formed by the image formation apparatus; and

a sheet post-processing device disposed downstream in the sheet transport direction of said image formation apparatus, said sheet post-processing device performing post-processing on sheets on which images are formed by the image formation apparatus or on sheets fed by the sheet feeding device.

18. An image formation system according to Claim 17, further comprising:

control means for selecting feeding of sheets from the two sheet feeding means to feed sheets from the sheet tray depending on whether the selected post-processing mode is a post-processing mode in which sheets are transported in a face-up state or a post-processing mode in which sheets are transported in a face-down state.

19. An image formation system according to Claim 17, wherein the sheet feeding device is detachably mounted on one of the image formation apparatus and the sheet post-processing device.

20. An image formation system according to Claim 17, further comprising:

an upstream side sheet feeding device located on an upstream side in the sheet feeding direction of the image formation apparatus for feeding sheets to the image formation apparatus,

wherein said upstream side sheet feeding device and said sheet feeding device have the same configuration.

21. An image formation system comprising:

an image formation apparatus for forming images on sheets;

a sheet feeding device according to Claim 7 for feeding and inserting sheets between two of a plurality of sheets on which images are formed by the image formation apparatus; and

a sheet post-processing device disposed downstream in the sheet transport direction of said image formation apparatus, said sheet post-processing device performing post-processing on sheets on which images are formed by the image formation apparatus or on sheets fed by the sheet feeding device.

22. An image formation system according to Claim 21, further comprising:

control means for selecting feeding of sheets from among the plurality of sheet trays to feed sheets depending on whether the selected post-processing mode is a post-processing mode in which sheets are transported in a face-up state to the sheet post-processing device or a post-processing mode in which sheets are transported in a face-down state to the sheet post-processing device.

23. An image formation system according to Claim 21, wherein the sheet feeding device is detachably mounted on

one of the image formation apparatus and the sheet post-processing device.

24. An image formation system according to Claim 21, further comprising:

an upstream side sheet feeding device located on an upstream side in the sheet feeding direction of the image formation apparatus for feeding sheets to the image formation apparatus,

wherein said upstream side sheet feeding device and said sheet feeding device have the same configuration.